REMARKS/ARGUMENTS

Claims 1-7, 11-65, 80, 82, 84, 86, 88, 90 and 92-96 are pending in this application. Of these claims, nos. 1-4, 6, 7, 13-22, 24-26, 29-31, 35-46 and 90 are under examination and are rejected. The remaining claims, nos. 5, 11-12, 23, 27, 28, 32-34, 47-65, 80, 82, 84, 86, 88, 90 and 92-96, have been withdrawn by the Examiner from further consideration in this application.

Claim Rejections Under 35 U.S.C. §103

In the Office Action the Examiner continues to maintain her previous rejection of claims 1-4, 6, 7, 13-17, 19-22, 24-26, 29-31, 35-46 and 90 under 35 U.S.C. §103 over Mirkin et al. US 2002/0127574 ("Mirkin I") in view of Kotov USP 7,045,087. This rejection is respectfully traversed.

The rejection rests, in essence, upon a determination by the Examiner that Mirkin I discloses the features recited in, e.g., claim 1 with the exception of a bonding agent that is a plasma layer with charged chemically reactive groups. The Examiner has thus combined Mirkin I with the Kotov reference since, in her view, Kotov teaches a bonding agent being a plasma layer with charged chemically reactive groups. The Examiner, thus, alleges that it would have been obvious to one having ordinary skill in the art at the time the claimed element was made to, "include in the element of Mirkin et al., a bonding agent of a plasma layer with charged chemically reactive groups between the microstructure and the carrier surface as taught by Kotov . . . . ". Applicants respectfully submit, however, that the conclusion of 'obviousness' drawn by the Examiner is unsupported by the actual facts of this matter since, as discussed further below, the Kotov reference does not teach, or even suggest, to use a bonding agent of a plasma layer with charged chemically reactive groups.

Applicants, in their previous response filed October 14, 2008, argued to the Examiner the reasons why the Kotov reference does not disclose the use of a bonding agent of a plasma layer with charged chemically reactive groups. Those arguments are specifically incorporated into this discussion by reference thereto. Nevertheless, at pp. 6-9 of the Office Action the Examiner sets forth the reasons why, in her view, applicants' arguments are 'not persuasive'.

In response applicants note, first, the statement in ¶2 on p. 7 of the Office Action in the Examiner's "Response to Arguments". It states that, "the rejected claims recite a bonding layer that is a plasma layer with charged chemically reactive groups and give a specific example of this being a polyelectrolyte in the specification at page 18. Kotov teaches the same polyelectrolyte layer and therefore reads on the instant claims. Applicants respectfully disagree. Kotov does not teach "the same polyelectrolyte layer". Kotov does teach, "a polyelectrolyte layer". The layer of Kotov, however, is not at all the "same polyelectrolyte layer" as that recited in, e.g., applicants' claim 1. This is due to the fact that, as previously explained, the presently claimed layer is a "plasma" layer, i.e., formed by the use of a plasma polymerization technique whereas, in contrast, the Kotov polyelectrolyte layer is formed with the use of a layer-by-layer ("LBL") technique. This aspect is addressed in, e.g., ¶3, *et seq.* of the Office Action, but applicants respectfully disagree with the conclusions drawn by the Examiner as set forth therein (see below).

To begin with, the Office Action states in ¶3 on p. 7, "applicant argues that because the methods of making are different, the polyelectrolytes are different". This is not so. What applicants actually have, and continue to argue, is that because the methods of making are different (i.e, plasma polymerization vs. LBL), both the structure and the properties of the resultant polyelectrolyte layers are different. The Examiner argues that the distinctions noted by the applicants are not persuasive because the claim (i.e., no. 1) is drawn to a functional element, which is a product and not a method of making the product. Therefore, different methods of making the product can be used as long as the final products are the same. Applicants' point, however, is that ***the final products in either case are not, in fact, the same***. While, admittedly, the product differences are due, at least in part, to the methodology by which the product (layer) is formed, nevertheless applicants reiterate that **the product** produced via plasma polymerization bears significant differences, i.e., in the structure and properties of **the product** from a corresponding product produced by the LBL method.

The Office Action continues in ¶3 on p. 7 with the statement, "Since both Kotov and the instant specification, at page 18, teach a polyelectrolyte layer as a plasma layer with charged reactive groups, the final products are the same." To begin with, while Kotov does teach a polyelectrolyte layer, the reference does not teach to form the layer via plasma polymerization

and, thus, it does not teach "a polyelectrolyte layer as a plasma layer". Further, as pointed out above, since the Kotov layer is made in an entirely different manner than the layer claimed by applicants, the resultant layers have, in the end, (1) different structures and (2) different properties. Therefore, it is entirely incorrect to characterize them as being "the same" as the Examiner has done. Further in ¶2 at the top of p. 8 of the Office Action it states that the layer by layer process taught by Kotov is for the assembly of multiple polyelectrolyte layers and does not refer to how the polyelectrolyte layer is made. Notwithstanding the name or description given to the method by which the layers disclosed in Kotov are 'made' however, they are not made by the plasma polymerization technique claimed in, e.g., applicants' claim 1. As such, they possess neither a comparable structure or comparable properties to the 'plasma layers' recited in applicants' claims.

Submitted herewith is an evidentiary "Declaration Under 37 C.F.R. 1.132" of Dr. Achim Weber, a co-inventor of the present application. Dr. Weber points out (e.g., in ¶5 of his declaration) that as previously noted on, e.g, p. 15 of applicants' response filed October 14, 2008, plasma polymerized bonding layers, i.e., as presently claimed, are known to be highly irregular in terms of their structure, which is therefore characterized as an amorphous structure. In contrast, layers (even individual layers) formed according to the technique disclosed in Kotov have well-ordered crystalline structures. They are, in fact, typically very regular and the layers are, thus, well-organized into stratified thin films in a specific predetermined order. As may be seen, therefore, from Dr. Weber's declaration, the final products are not the same in the case of plasma-formed layers versus LBL layers.

The view expressed as noted above by Dr. Weber is further supported, as discussed in ¶6 of the accompanying Declaration by the disclosure contained in the attached reference article of Gaur et al. "Plasma Polymerization: Theory and Practice". As set forth in the indicated paragraph, the reference describes the characteristics of HDMSO films prepared by plasma polymerization (i.e., as recited in claim 1 of the present application). Such films were deemed to be "amorphous and pinhole free". The reference then goes on to state that: (1) plasma polymers do not contain regular repeating units; (2) the chains are branched and randomly terminated with a high degree of cross-linking; and (3) that the chemical reactions that occur under plasma conditions are generally very complex and are non-specific in nature. This, then, provides further evidence for

distinguishing plasma layers (as claimed) from the 'type' or 'form' of the polyelectrolyte layers disclosed in Kotov.

The attached declaration thus clearly demonstrates that, notwithstanding that both the presently claimed 'plasma bonding layer' and the layer(s) disclosed in Kotov are or may be formed of "polyelectrolytes", the methodology by which the two layers are formed results in significant differences between the layers themselves, i.e., in their structures and in their properties. These distinctions must be taken into account by the Examiner due to the evidentiary nature of the declaration. Furthermore, the showing as set forth in the declaration is entirely commensurate with the scope of the recitation as contained in applicants' claims.

Finally, in paragraphs 3-4 on pp. 8-9 of the Office Action the Examiner argues that the comparison between the instant specification and Kotov is non-analogous. The Examiner, therein, is apparently responding to the argument set forth on pps. 14-15 of applicants' October 14, 2008 response, i.e., that the use of plasma technology results in the formation of a single layer, whereas the layer-by-layer technology involves the formation of multiple layers, wherein the layers are cross-linked together to improve their mechanical properties. The Examiner, thus, argues, that the comparison between a single layer (claim) and multiple layers (Kotov) is inappropriate. Even taken on an individual basis, however, i.e., layer for layer, applicants submit that as demonstrated in the attached declaration of Dr. Achim Weber under 37 C.F.R. 1.132, the layers formed without plasma polymerization, i.e., according to Kotov, have demonstrably different physical characteristics and, thus, they also exhibit substantial different properties from one another.

For all of the reasons presented above, therefore, applicants respectfully request that the Examiner reconsider and withdraw the §103 rejection of claim 1 and dependent claims 2-4, 6, 7, 13-17, 19-22, 24-26, 29-31, 35-46 and 90 over the combination of Mirkin et al. in view of Kotov.

Further to the above, in ¶2 on p. 6 of the Office Action claim 18 is rejected under 35 U.S.C. §103 over Mirkin et al. (Mirkin I) in view of Kotov, and further in view of Mirkin et al. Published U.S. Patent Application No. 2002/0132371 ("Mirkin II"). This rejection is also respectfully traversed.

The above rejection has been discussed in applicants' responses dated May 5, 2008 and October 14, 2008 and those remarks are specifically incorporated by reference into this discussion.

As previously indicated, Mirkin II completely fails to disclose or suggest the element(s) of applicants' element as recited in claim 1 that is missing from both Mirkin I and from Kotov, i.e., a plasma-generated bonding layer with charged chemically reactive groups. Since claim 18 depends (indirectly) from claim 1, it includes all of the features recited in the subject claim. Thus, since even the combination of Mirkin I, Mirkin II and Kotov do not disclose, inter alia, such a plasma-generated bonding layer with charged chemically reactive groups, the subject matter recited in claim 18 is neither taught or even suggested by the cited combination of references. The Examiner is, therefore, respectfully requested to reconsider and withdraw the rejection of claim 18 as well.

Summary

Applicants respectfully submit that the remarks set forth above, as supported by the evidence contained in the declaration under 37 C.F.R. §1.132 of Achim Weber appended hereto, is believed to overcome all of the grounds of rejection set forth in the present Office Action. The Examiner is, therefore respectfully requested to withdraw all of the pending rejections of applicants' claims and to issue a Notice of Allowance therefor.

Respectfully submitted,

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